

# Dosing for Ritonavir-Boosted Protease Inhibitors / July 2006

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Ritonavir, a potent inhibitor of cytochrome P450 3A4 (CYP3A4) and CYP2D6, can cause clinically significant increases in serum levels of other protease inhibitors (PIs). Pharmacokinetic enhancement of certain PIs with low-dose ritonavir can increase drug concentrations of these PIs while allowing a reduction in pill burden, dosing frequency, and food restrictions.

The following table shows possible adult dosages for ritonavir-boosted PIs.

For more information, see the *Database of Antiretroviral Drug Interactions*, online at <http://hivinsite.ucsf.edu/interactions>.

Protease Inhibitor	Dosing Regimen (Adults)		
<b>Amprenavir</b>	As of June 2005, no longer manufactured for adult dosing. Consider fosamprenavir.		
<b>Atazanavir</b>	Atazanavir 300 mg QD	+	ritonavir 100 mg QD
<b>Darunavir</b>	Darunavir 600 mg BID	+	ritonavir 100 mg BID
<b>Fosamprenavir</b>	Fosamprenavir 700 mg BID	+	ritonavir 100 mg BID*
	Fosamprenavir 1,400 mg QD	+	ritonavir 200 mg QD*+ <sup>‡</sup>
<b>Indinavir</b>	Indinavir 800 mg BID	+	ritonavir 200 mg BID*
	Indinavir 800 mg BID	+	ritonavir 100 mg BID*
	Indinavir 400 mg BID	+	ritonavir 400 mg BID*
<b>Lopinavir</b>	Lopinavir 400 mg	+	ritonavir 100 mg BID (coformulated as Kaletra)*
	Lopinavir 800 mg	+	ritonavir 200 mg QD (coformulated as Kaletra)* <sup>‡</sup>
<b>Saquinavir</b>	Saquinavir 400 mg BID	+	ritonavir 400 mg BID <sup>§</sup>
	Saquinavir 1,000 mg BID	+	ritonavir 100 mg BID <sup>§</sup>
	Saquinavir 1,600 mg QD	+	ritonavir 100 mg QD <sup>§</sup>
<b>Tipranavir</b>	Tipranavir 500 mg BID	+	ritonavir 200 mg BID

List of abbreviations:

BID = 2 times per day

QD = once daily

\* When used in combination with efavirenz or nevirapine, may require dosage adjustment. See Dosage Adjustments for ARV-ARV Drug Interactions.

† Once-daily lopinavir/ritonavir should not be used in combination with efavirenz, nevirapine, amprenavir, fosamprenavir, or nelfinavir (dosage adjustment not established).

+ Once-daily dosing of fosamprenavir is not recommended for PI-experienced patients.

§ When boosted by ritonavir, the saquinavir hard-gel capsule and soft-gel capsule formulations achieve comparable drug concentrations. The hard-gel capsule appears to be more tolerable.